



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/519,620	12/30/2004	Koichi Sanpei	122245	9405
25944	7590	11/17/2006	EXAMINER	
OLIFF & BERRIDGE, PLC P.O. BOX 19928 ALEXANDRIA, VA 22320			VO, ANH T N	
			ART UNIT	PAPER NUMBER
			2861	

DATE MAILED: 11/17/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/519,620	SANPEI ET AL.	
	Examiner	Art Unit	
	Anh T.N. Vo	2861	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 December 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-7 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4, 6 and 7 is/are rejected.
- 7) ☒ Claim(s) 5 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>12/30/2004</u> | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Acknowledgement is made of the receipt of Preliminary Amendment filed 30 December 2004.

Information Disclosure Statement

The references cited on PTO 1449 have been considered.

Specification and Drawings

The specification and drawings have not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification and drawings.

Claim Objection

Claim 5 is objected to because of "the movable plate" lacks antecedent basis.

Claim Rejections

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-4 are rejected under 35 USC 102 (b) as being anticipated by Gelbart (US Pat. 6,471,335).

Gelbart discloses in Figures 1-2 a multi-head inkjet cartridge comprising:

- a plurality of ink jet heads (4) are fixed to a plate (1), and an ink is injected to an ink receiving subject (not shown) from the plurality of ink jet heads (4) in a state in which a plate surface of the plate (1) and the ink receiving subject are faced to each other;
- the ink jet head ((4) is fixed to the plate (1) by an adjust plate (9);
- a cable (7) for sending a signal to the ink jet head (4) is buried in the plate (1); and
- cables (7) for sending a signal to the ink jet head are respectively connected by a connector (an unmarked connector that is connected at the end of the element 7).

Claims 1 and 3-4 are rejected under 35 USC 102 (b) as being anticipated by Scheffelin et al. (US Pat. 6,464,333).

Scheffelin et al. disclose, in Figures 1-7, an ink jet printhead assembly comprising:

- a plurality of ink jet heads (40) are fixed to a plate (32), and an ink is injected to an ink receiving subject (19) from the plurality of ink jet heads (40) in a state in which a plate surface of the plate (32) and the ink receiving subject (19) are faced to each other (Figures 1-2); and
- a tube (54) for supplying the ink to the ink jet head (40) and/or a cable (68) for sending a signal to the ink jet head (40) is buried in the plate (32) and cables (68) for sending a signal to the ink jet head (40) are respectively connected by a connector (34) (Figure 4).

Claims 1-2 and 6-7 are rejected under 35 USC 102 (b) as being anticipated by Kawase et al. (US Pat. 6,502,922).

Kawase et al. disclose in Figures 1-2 an ink jet printing apparatus comprising:

- a plurality of ink jet heads (6T, 6B, 6C, 6M, 6Y) are fixed to a plate (10), and an ink is injected to an ink receiving subject (Pa) from the plurality of ink jet heads (6T, 6B, 6C, 6M, 6Y) in a state

Art Unit: 2861

in which a plate surface of the plate (10) and the ink receiving subject (Pa) are faced to each other (Figures 1-2);

- the ink jet head (6T, 6B, 6C, 6M, 6Y) is fixed to the plate (10) by an adjust plate (14) (Figure 1);
- a drive unit (36) for lifting the plate (10) from the position for printing to execute a nozzle maintenance of the ink jet heads (6T, 6B, 6C, 6M, 6Y) (Figure 1); and
- a maintenance unit having caps (8T, 8B, 8C, 8M, 8Y) and being inserted to the position under the plate (10) for capping the ink jet heads (6T, 6B, 6C, 6M, 6Y) (Figure 1).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior arts are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 3-4 are rejected under 35 USC 103 (a) as being unpatentable over Kawase et al. (US Pat. 6,502,922) in view of Scheffelin et al. (US Pat. 6,464,333).

Kawase et al. disclose the basic features of the claimed invention were stated above but do not disclose a tube for supplying the ink to the ink jet head and/or a cable for sending a signal to the ink jet head is buried in the plate and tubes for supplying the ink to the ink jet head and/or cables for sending a signal to the ink jet head are respectively connected by a connector.

Scheffelin et al. disclose, in Figures 1-7, an ink jet printhead assembly comprising a tube (54) for supplying the ink to the ink jet head (40) and/or a cable (68) for sending a signal to the ink jet head (40) is buried in the plate (32) and cables (68) for sending a signal to the ink jet head (40) are respectively connected by a connector (34).

Art Unit: 2861

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to incorporate the teaching of Scheffelin et al. in the Kawase et al. ink jet printing apparatus for the purpose of accommodating communication of electrical signals between the electronic controller and each of printhead dies.

Citation of Pertinent Prior Art

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. These prior art references (US Pat. 6,508,536; US Pat. 6,508,537; US Pat. 6,543,880) cited in the PTO 892 form show printhead dies that are deemed to be relevant to the present invention. These references should be reviewed.

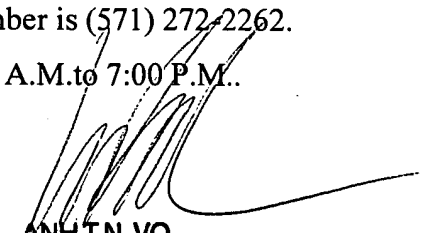
Allowable Subject Matter

Claim 5 would be allowable if rewritten to include all of the limitations of the base claim and any intervening claims. This claim would be allowable because the prior art references of record fails to suggest an ink tank for supplying ink to the ink jet head that is fixed to a plate, and a height of an ink liquid surface in the ink tank is controlled such that the height of the ink liquid surface in the ink tank is maintained at a set value with respect to the movable plate in the combination as claimed.

CONCLUSION

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner Anh Vo whose telephone number is (571) 272-2262. The examiner can normally be reached on Tuesday to Friday from 9:00 A.M. to 7:00 P.M..

The fax number of this Group 2861 is (571) 273-8300.


ANH T.N. VO
PRIMARY EXAMINER
November 10, 2006